

HILTI

AG 500-A18

Operating instructions

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Mode d'emploi

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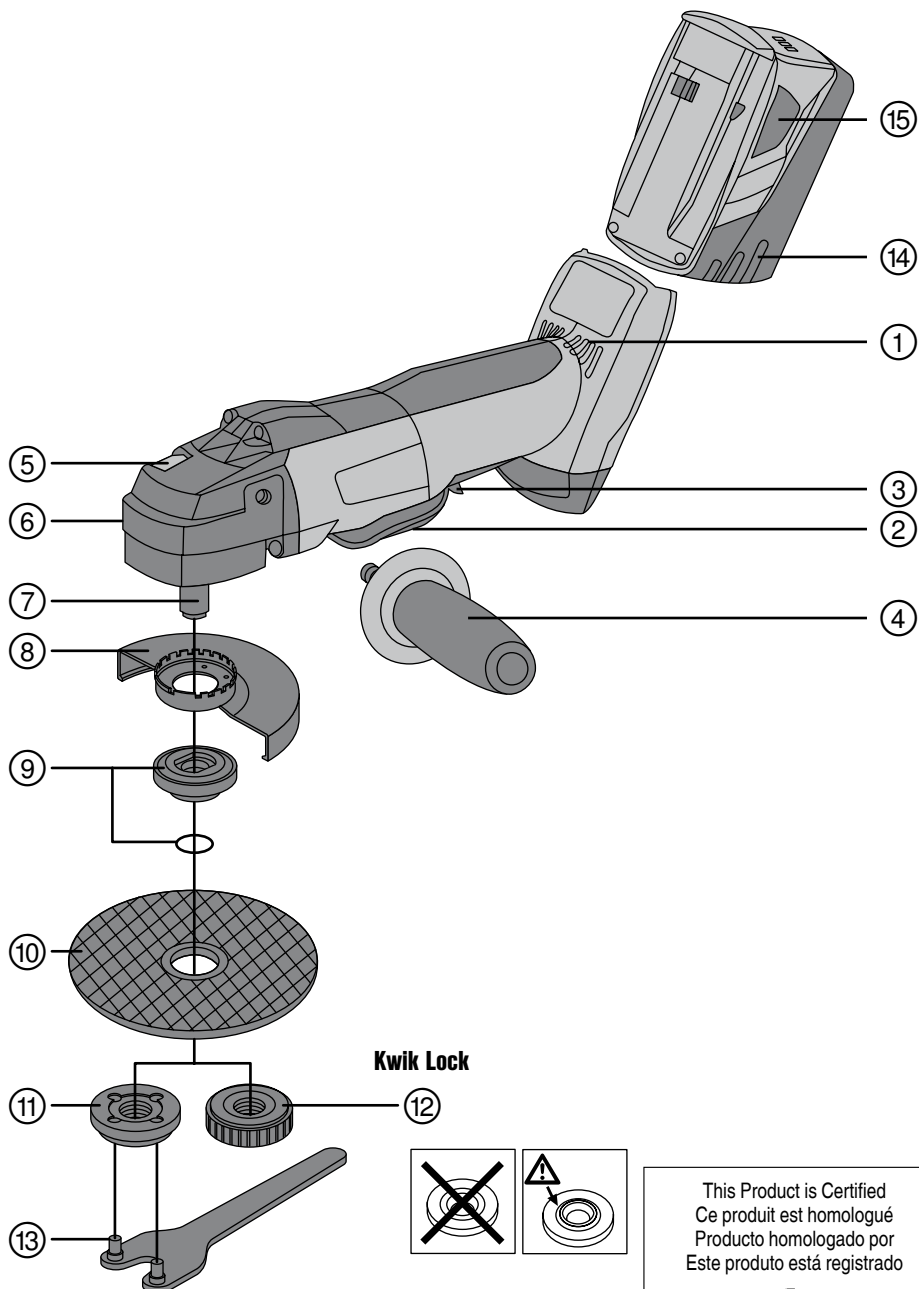
Manual de instrucciones

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Manual de instruções

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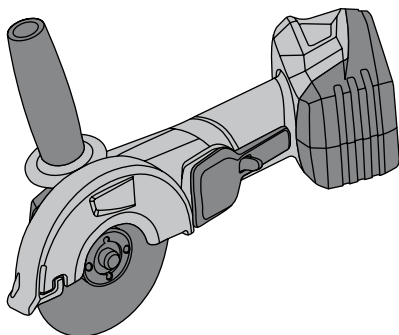
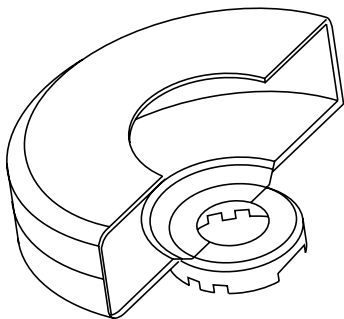




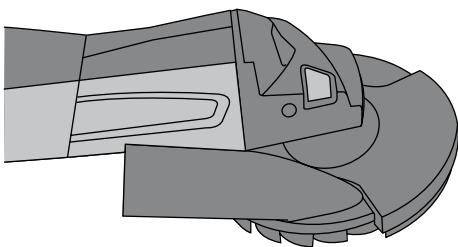
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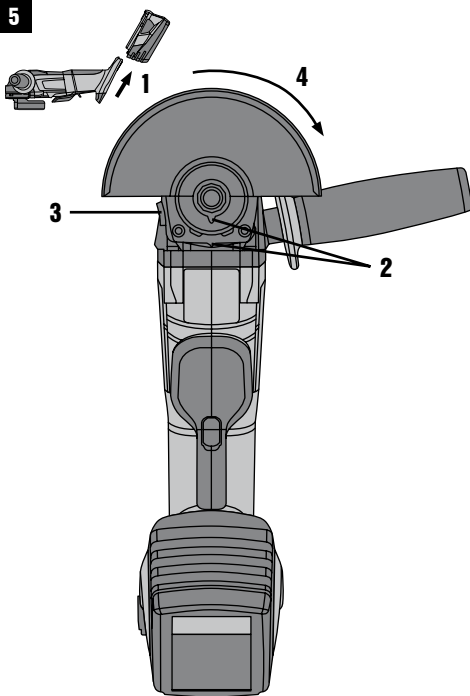
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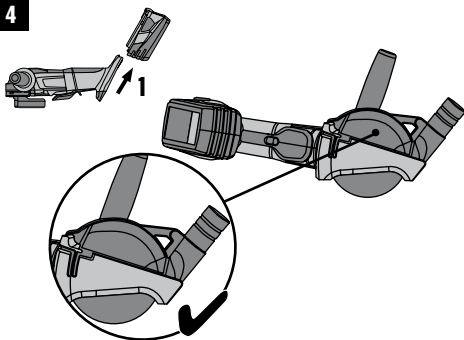
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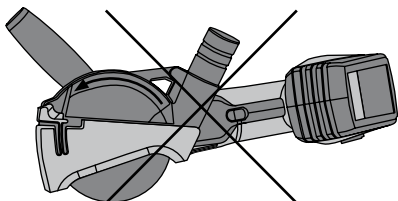
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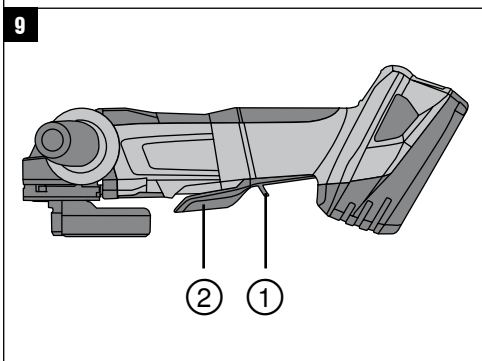
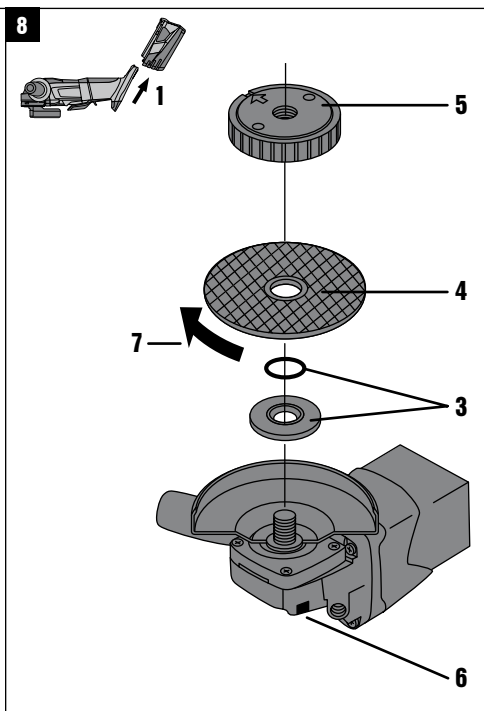
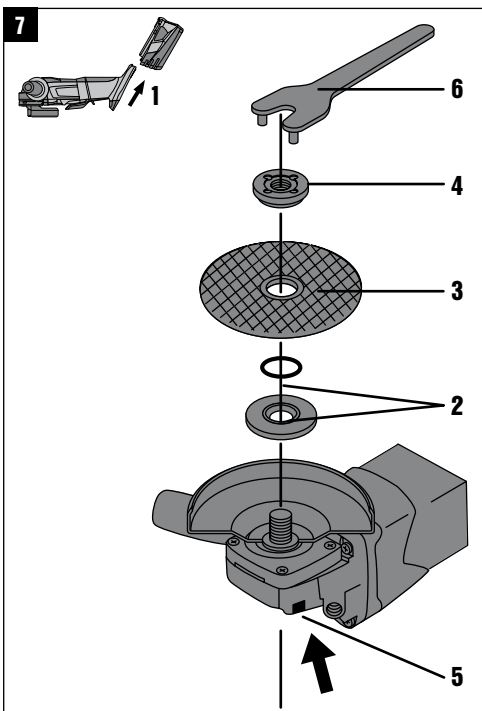


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ORIGINAL OPERATING INSTRUCTIONS

AG 500-A18 angle grinder

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It is essential that the operating instructions are read before the power tool is operated for the first time.

Always keep these operating instructions together with the power tool.

Ensure that the operating instructions are with the power tool when it is given to other persons.

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1 These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the designation "the tool" always refers to the AG 500-A18 cordless angle grinder.

Operating controls and parts **1**

- ① Ventilation slots
- ② On / off switch
- ③ Switch-on interlock
- ④ Vibration-absorbing side handle
- ⑤ Spindle lockbutton
- ⑥ Guard release button
- ⑦ Spindle
- ⑧ Guard
- ⑨ Clamping flange with O-ring
- ⑩ Cutting disc / grinding disc
- ⑪ Clamping nut
- ⑫ Kwik-Lock quick-release clamping nut (optional)
- ⑬ Wrench
- ⑭ Battery
- ⑮ Release buttons with additional function (charge status display activation)

1. General information

1.1 Safety notices and their meaning

DANGER

Draws attention to imminent danger that will lead to serious bodily injury or fatality.

WARNING

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

CAUTION

Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

NOTE

Draws attention to an instruction or other useful information.

1.2 Explanation of the pictograms and other information

Warning signs



General warning



Warning: electricity



Warning: hot surface



Warning: caustic substances

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Obligation signs



Wear eye protection



Wear a hard hat



Wear ear protection



Wear protective gloves



Wear breathing protection

Symbols



Read the operating instructions before use



Return waste material for recycling.



Volts



Direct current

n

Rated speed

/min

Revolutions per minute

RPM

Revolutions per minute

Ø

Diameter

Location of identification data on the power tool

The type designation and serial number can be found on the type identification plate on the machine or tool. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type:

Generation: 01

Serial no.:

2. Description

2.1 Use of the product as directed

The power tool is designed for cutting, grinding and brushing metal or mineral materials (concrete, stone, etc.) without use of water.

The working environment may be as follows: construction site, workshop, renovation, conversion or new construction.

Do not use the battery as a power source for other unspecified appliances.

Working with metals: Cutting, rough grinding, fine grinding, brushing

Working with mineral materials: Cutting, slitting using the corresponding guard (DC-EX 125/5"-C), grinding using the corresponding guard (DG-EX 125/5").

Use only grinding discs, cutting discs and other accessories that are approved for use at a speed of at least 11000 /min at max. 5" diameter.

Use only synthetic resin-bonded, fiber-reinforced grinding or cutting discs or diamond cutting discs approved for use at a peripheral speed of 80 m/sec.

The power tool may be used only for dry cutting or grinding.

Cutting or grinding materials containing asbestos is not permissible.

When grinding stone, a vacuum cleaner equipped with the appropriate filter, e.g. a suitable Hilti vacuum cleaner, must be used.

Modification of the power tool or tampering with its parts is not permissible.

To avoid the risk of injury, use only genuine Hilti accessories and insert tools.

Observe the information printed in the operating instructions concerning operation, care and maintenance. The power tool is designed for professional use and may be operated, serviced and maintained only by trained, authorized personnel. This personnel must be informed of any special hazards that may be encountered. The power tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

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2.2 Items supplied as standard

- 1 Power tool
- 1 Side handle
- 1 Guard
- 1 Front cover
- 1 Kwik-Lock quick-release clamping nut (optional)
- 1 Flange
- 1 Nut
- 1 Wrench
- 1 Operating instructions
- 1 Protective glasses (optional)

2.3 Additional items required for operating the tool

B18/3.3 or B18/2.6 Li-Ion battery and C4/36-ACS, C4/36-ACS-TPS, C4/36, C4/36-90 or C4/36-350 charger.

2.4 Constant-speed electronics / automatic brake

Electronic speed control keeps running speed almost constant irrespective of whether the power tool is idling or running under load. Constant running speed helps ensure maximum efficiency.

Disc deceleration time is reduced automatically.

2.5 Temperature-dependent motor protection

The temperature-dependent motor protection system prevents the power tool overheating by monitoring current input and motor temperature.

In the event of motor overload due to application of excessive pressure to the disc, performance will drop noticeably or the power tool may stop running (avoid stalling the power tool in this way).

Permissible tool overload cannot be given as a specific value as it depends on the temperature of the motor.

If the power tool has been overloaded, release the pressure applied and then allow it to run under no load for approx. 30 seconds.

2.6 DC-EX 125/5"-C compact dust removal hood for cutting

For cutting concrete and masonry.

CAUTION

Use of this guard for working on metal is not permissible.

NOTE

It is recommended that a dust removal system consisting of matched components, i.e. dust removal hood and a suitable Hilti vacuum cleaner, are used for cutting, grinding and slitting work on mineral materials such as concrete or stone. These serve to protect the operator and increase the life of the power tool and disc used.

2.7 Guard with front cover 2

CAUTION

When using cutting discs to cut metals, the guard with front cover must be fitted.

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2.8 DG-EX 125/5" dust removal hood for grinding 3

The power tool is suitable only for occasional use with diamond cup wheels for grinding mineral materials.

CAUTION

Use of this guard for working on metal is not permissible.

NOTE

It is recommended that a dust removal system consisting of matched components, i.e. dust removal hood and a suitable Hilti vacuum cleaner, are used for cutting, grinding and slitting work on mineral materials such as concrete or stone. These serve to protect the operator and increase the life of the power tool and disc used.

2.9 Lithium-ion battery charge status

When a lithium-ion battery is used, the charge status can be indicated by gently pressing one of the battery release buttons (press until resistance is felt - do not release the battery). The display on the rear of the battery provides the following information:

LEDs light constantly	LEDs blink	Charge status C
LED 1,2,3,4	-	$C \geq 75\%$
LED 1,2,3	-	$50\% \leq C < 75\%$
LED 1,2	-	$25\% \leq C < 50\%$
LED 1	-	$10\% \leq C < 25\%$
-	LED 1	$C < 10\%$

3. Insert tools, accessories

Discs of max. 5" diameter designed for use at 11000 /min and a peripheral speed of 80 m/sec

Designation	Item number, description
Abrasive cutting disc	AC-D
Abrasive grinding disc	AG-D, AF-D
Diamond cutting disc	DC-D
Diamond grinding disc	DG-CW

Accessories for the AG 500-A18

Designation	Short designation	Description
Kwik-Lock quick-release clamping nut (optional)		
Dust removal hood for grinding		DG-EX 125/5"
Guard with front cover		
Compact dust removal hood		DC-EX 125/5" C
Toolbox		
Vacuum cleaner recommended by Hilti		

Designation	Short designation	Description
Battery	B 18/2.6 Li-ion	
Battery	B 18/3.3 Li-ion	
Charger for Li-ion batteries	C 4/36, C 4/36-ACS or C 4/36-ACS TPS	
Charger for Li-ion batteries	C 4/36-90	
Charger for Li-ion batteries	C 4/36-350	

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4. Technical data

Right of technical changes reserved.

Power tool	AG 500-A18
Rated voltage	21.6 V
Rated speed	9,500/min
Cutting discs / grinding discs	Ø 125 mm (5")
Dimensions (L x H x W) without hood	351 mm (13.82") x 131 mm (5.16") x 93 mm (3.66")
Weight	2.7 kg (5.95 lb)

Battery	B 18/2.6 Li-Ion	B 18/3.3 Li-Ion
Rated voltage	21.6 V	21.6 V
Capacity	2.6 Ah	3.3 Ah
Energy capacity	56.16 Wh	71.28 Wh
Weight	0.78 kg (1.72 lb)	0.78 kg (1.72 lb)
Type of cell	Li-Ion	Li-Ion
No. of cells	12	12
Deep discharge protection	Yes	Yes

Information about the power tool and applications


Drive spindle thread (arbor size)	M 14
Spindle length	21.5 mm (¾")

5. Safety instructions

NOTE

The safety rules in section 5.1 contain all general safety rules for power tools which, in accordance with the applicable standards, must be listed in the operating instructions. Accordingly, some of the rules listed may not be relevant to this tool.

5.1 General power tool safety warnings

- a)  **WARNING**
Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference. The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

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5.1.1 Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

5.1.2 Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

5.1.3 Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

5.1.4 Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the**

power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

5.1.5 Battery tool use and care

- a) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b) **Use power tools only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury and fire.
- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- d) **Under abusive conditions, liquid may be ejected from the battery, avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

5.1.6 Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

5.2 Additional safety instructions

5.2.1 Safety warnings common for grinding, danding, wire brushing, polishing or abrasive cutting-off operations

- a) **This power tool is intended to function as a grinder, sander, wire brush or cut-off tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

- b) **Operations such polishing are not recommended to be performed with this power tool** Operations for which the power tool was not designed may create a hazard and cause personal injury.

- c) **Do not use accessories which are not specifically designed and recommended by the tool manufacturer.** Just because the accessory can be attached to your power tool, it does not assure safe operation.

- d) **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their rated speed can break and fly apart.

- e) **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.** Incorrectly sized accessories cannot be adequately guarded or controlled.

- f) **The arbour size of wheels, flanges, backing pads or any other accessory must properly fit the spindle of the power tool.** Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

- g) **Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute.** Damaged accessories will normally break apart during this test time.

- h) **Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations.** The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.

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- i) **Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment.** Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.
- j) **Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- k) **Position the cord clear of the spinning accessory.** If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.
- l) **Never lay the power tool down until the accessory has come to a complete stop.** The spinning accessory may grab the surface and pull the power tool out of your control.
- m) **Do not run the power tool while carrying it at your side.** Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.
- n) **Regularly clean the power tool's air vents.** The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.
- o) **Do not operate the power tool near flammable materials.** Sparks could ignite these materials.
- p) **Do not use accessories that require liquid coolants.** Using water or other liquid coolants may result in electrocution or shock.

5.2.2 Kickback and related warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions.

Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- a) **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up.** The operator can control torque reactions or kickback forces, if proper precautions are taken.
- b) **Never place your hand near the rotating accessory.** Accessory may kickback over your hand.
- c) **Do not position your body in the area where power tool will move if kickback occurs.** Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
- d) **Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.** Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
- e) **Do not attach a saw chain woodcarving blade or toothed saw blade.** Such blades create frequent kickback and loss of control.

5.2.3 Safety warnings specific for grinding and abrasive cutting-off operations

- a) **Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel.** Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.
- b) **The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator.** The guard helps to protect operator from broken wheel fragments, accidental contact with wheel and sparks that could ignite clothing.
- c) **Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel.** Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.
- d) **Always use undamaged wheel flanges that are of correct size and shape for your selected wheel.** Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.

- e) **Do not use worn down wheels from larger power tools.** Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

5.2.4 Additional safety warnings specific for abrasive cutting-off operations

- a) **Do not "jam" the cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut.** Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage.
- b) **Do not position your body in line with and behind the rotating wheel.** When the wheel, at the point of operation, is moving away from your body, the possible kickback may propel the spinning wheel and the power tool directly at you.
- c) **When wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the cut-off wheel from the cut while the wheel is in motion otherwise kickback may occur.** Investigate and take corrective action to eliminate the cause of wheel binding.
- d) **Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully reenter the cut.** The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.
- e) **Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback.** Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.
- f) **Use extra caution when making a "pocket cut" into existing walls or other blind areas.** The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

5.2.5 Additional safety instructions for sanding operations

- a) **Do not use excessively oversized sanding disc paper. Follow manufacturers recommendations, when selecting sanding paper.** Larger sanding paper extending beyond the sanding pad presents a laceration hazard and may cause snagging, tearing of the disc or kickback.

5.2.6 Safety warnings specific for wire brushing operations

- a) **Be aware that wire bristles are thrown by the brush even during ordinary operation. Do not overstress the wires by applying excessive load to the brush.** The wire bristles can easily penetrate light clothing and/or skin.
- b) **If the use of a guard is recommended for wire brushing, do not allow any interference of the wire wheel or brush with the guard.** Wire wheel or brush may expand in diameter due to work load and centrifugal forces.

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5.3 Additional safety instructions

5.3.1 Personal safety

- a) **Wear ear protectors.** Exposure to noise can cause hearing loss.
- b) **Always hold the power tool securely with both hands on the grips provided. Keep the grips dry, clean and free from oil and grease.**
- c) **Breathing protection must be worn if the power tool is used without a dust removal system for work that creates dust.**
- d) **Do not operate the power tool without the protective devices that belong to it.**
- e) **Operate the power tool only as intended and when it is in faultless condition.**
- f) **Improve the blood circulation in your fingers by relaxing your hands and exercising your fingers during breaks between working.**
- g) **Switch the power tool on only after bringing it into position at the workpiece.**
- h) **Remove the battery before storing or transporting the power tool.**
- i) **Never brake the tool by applying lateral pressure to the grinding or cutting disc.**
- j) **Do not touch the clamping flange or the clamping screw while the power tool is running.**
- k) **Never press the spindle lockbutton while the grinding or cutting disc is still rotating.**
- l) **Never direct the power tool toward persons.**
- m) **Adjust the pressure applied to the grinding or cutting disc to suit the material you are working on, so that the grinding or cutting disc doesn't stall, possibly causing the tool to kick back.**
- n) **Avoid touching rotating parts. Switch the power tool on only after bringing it into position at the workpiece.** Touching rotating parts, especially rotating insert tools, may lead to injury.

- o) When grinding with straight grinding discs and cutting with cutting discs in metalworking applications, use only the guard with cover plate. This is available as an optional accessory.
- p) Children must be instructed not to play with the power tool.
- q) The power tool is not intended for use by children, by debilitated persons or those who have received no instruction or training.
- r) Do not use the power tool if it starts with a jolt. This may be an indication that the electronic control unit is defective. Have the tool repaired at an authorized Hilti service center right away.
- s) **WARNING: Some dust created by grinding, sanding, cutting and drilling contains chemicals known to cause cancer, birth defects, infertility or other reproductive harm; or serious and permanent respiratory or other injury.** Some examples of these chemicals are: lead from lead-based paints, crystalline silica from bricks, concrete and other masonry products and natural stone, arsenic and chromium from chemically-treated lumber. Your risk from these exposures varies, depending on how often you do this type of work. To reduce exposure to these chemicals, the operator and bystanders should work in a well-ventilated area, work with approved safety equipment, such as respiratory protection appropriate for the type of dust generated, and designed to filter out microscopic particles and direct dust away from the face and body. Avoid prolonged contact with dust. Wear protective clothing and wash exposed areas with soap and water. Allowing dust to get into your mouth, eyes, or to remain on your skin may promote absorption of harmful chemicals.

5.3.2 Power tool use and care

- a) Grinding discs must be stored and handled carefully in accordance with the manufacturer's instructions.
- b) Check that the grinding disc is fitted in accordance with the manufacturer's instructions.
- c) If use of a spacer ring or other intermediate part is specified and the part is supplied with the grinding disc, check to ensure that the part is fitted.
- d) Before use, check that the cutting or grinding disc has been fitted correctly and the clamping nut tightened. Then allow the power tool to run for 30 seconds under no load while holding it

securely. Switch off the power tool immediately if significant vibration or any other faults are noticed. Should this occur, examine the power tool in order to determine the cause.

- e) Never use the power tool without the guard.
- f) Do not use separate reducing rings or adapters to enable use of grinding discs with a larger mounting hole.
- g) If the grinding disc (or cup wheel, etc.) is equipped with a threaded insert, check that the threaded section is long enough to take up the length of the drive spindle.
- h) The workpiece must be fixed securely in place.
- i) Do not use cutting discs for grinding.
- j) Take steps to ensure that flying sparks from the tool do not present a hazard, i.e. by striking yourself or other persons or by igniting inflammable substances. Adjust the position of the disc guard accordingly.
- k) When working in dusty conditions, check to ensure that the cooling air openings remain unobstructed. Should it become necessary to remove dust deposits from the air openings, first unplug the tool from the electric supply and then use a non-metallic object to remove the dust, taking care to avoid damaging parts inside the tool.
- l) If the nut securing the disc and flange is not tightened firmly, the disc may work loose from the spindle due to the braking effect of the motor. Tighten the disc / flange securing nut in accordance with the directions given in the operating instructions. Wait until the disc comes to a standstill.

5.3.3 Electrical safety



- a) Before beginning work, check the working area (e.g. using a metal detector) to ensure that no concealed electric cables or gas and water pipes are present. External metal parts of the power tool may become live, for example, when an electric cable is damaged accidentally. This presents a serious risk of electric shock.
- b) Dirty or dusty power tools that have been used frequently for work on conductive materials should be checked at regular intervals at a

Hilti Service Center. Under unfavorable circumstances, dampness or dust adhering to the surface of the tool, especially dust from conductive materials, may lead to damage to the tool.

5.3.4 Battery use and care

- a) **Observe the special instructions applicable to the transport, storage and use of Li-ion batteries.**
- b) **Do not expose batteries to high temperatures or fire.** This presents a risk of explosion.
- c) **Do not disassemble, squash or incinerate batteries and do not subject them to temperatures over 80°C.** A risk of fire, explosion or injury through contact with caustic substances may otherwise result.
- d) **Do not use batteries other than those approved for use with the applicable power tool or appliance.** Use of other batteries or use of the battery for purposes for which it is not intended presents a risk of fire and explosion.
- e) **Do not charge or continue to use damaged batteries (e.g. batteries with cracks, broken parts, bent or pushed-in and/or pulled-out contacts).**

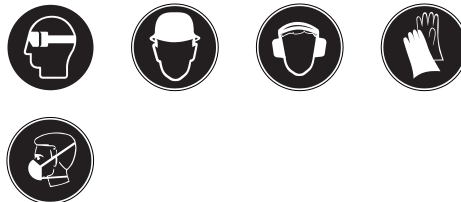
- f) If the battery gets too hot to touch, this may indicate that it is faulty. **Place the tool at a location where there is no risk of causing a fire (at least 3 meters away from flammable materials), where it can be kept under observation and allowed to cool. Contact Hilti Service after the battery has been allowed to cool.**

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5.3.5 Work area safety

- a) **Ensure that the workplace is well lit.**
- b) **Ensure that the workplace is well ventilated.** Exposure to dust at a poorly ventilated workplace may result in damage to the health.

5.3.6 Personal protective equipment



The user and any other persons in the vicinity must wear ANSI Z87.1-approved eye protection, a hard hat, ear protection, protective gloves and breathing protection while the power tool is in use.

6. Before use



WARNING

Never use the power tool without the guard.

6.1 Battery use and care

NOTE

Battery performance drops at low temperatures. Use the tool only after fully charging the battery. This ensures that maximum battery capacity is available. Change to a second battery as soon as a drop in performance is noticed. Recharge the battery immediately so that it is ready for reuse.

Store the battery in a cool, dry place. Never store the battery where it is exposed to direct sunlight or sources of heat, e.g. on heaters / radiators or behind a motor vehicle windscreen. Batteries that have reached

the end of their life must be disposed of safely and correctly to avoid environmental pollution.

6.2 Charging the battery



DANGER

Only used the specified Hilti battery packs and Hilti battery chargers which are listed under "Accessories".

6.2.1 Charging a new battery for the first time

Charge the battery fully before using it for the first time.

6.2.2 Charging a previously used battery

Ensure that the outer surfaces of the battery are clean and dry before inserting it in the corresponding charger.

Read the operating instructions for the charger for further information about the charging procedure.

Lithium-ion battery packs are ready to use at any time, even when only partially charged. Charging progress is indicated by the LED display (see charger operating instructions).

6.3 Fitting the battery

CAUTION

Check that the power tool is switched off and the switch interlock activated before fitting the battery. Use only the Hilti batteries approved for use with this power tool.

CAUTION

Check that the terminals on the battery and in the power tool are free from foreign objects before inserting the battery in the power tool.

1. Push the battery into the power tool from the rear as far as it will go and until it is heard to engage with a double click.
2. **CAUTION If it is not fitted securely, the battery could fall out while you are working with the tool.**

CAUTION A falling battery may present a risk of injury to yourself or others.

Before beginning the work, check that the battery is fitted securely to the tool.

6.4 Removing the battery from the power tool

1. Press both battery release buttons.
2. Pull the battery out of the power tool toward the rear.

6.5 Transport and storage of battery packs

Pull the battery pack out of the locked position (working position) and move it into the first click-stop position (transport position).

If you disconnect a battery pack from the power tool for transport or storage, make sure that the contacts of the battery pack are not short-circuited. Remove loose metal parts such as screws, nails, clamps, loose screw bits, wires or metal swarf from the case, toolbox or transport container, or prevent these parts from coming into contact with the battery packs.

Observe national and international transport regulations when shipping battery packs (transportation by road, rail, sea or air).

6.6 Fitting the side handle

WARNING

The side handle must be fitted for all types of work.

The side handle may be screwed onto the tool on the right or left.

6.7 Working with the power tool

Take care to ensure that the closed side of the guard is always positioned toward the operator's body.

Adjust the position of the guard to suit the requirements of the work being done.

6.7.1 Fitting the guard

NOTE

The guard is equipped with locating lugs that ensure only guards of a type suitable for use with the power tool can be fitted. The locating lugs of the guard fit into the guard mount on the power tool.

1. Pull the battery out of the power tool.
2. Fit the guard onto the drive spindle collar so that the two triangular marks on the guard and on the power tool are in alignment.
3. Push the guard onto the drive spindle collar; press the guard release button.
4. Rotate the guard until it engages and the guard release button jumps back into its original position.

6.7.1.1 Adjusting the guard

1. Pull the battery out of the tool.
2. Press the guard release button and then rotate the guard until it engages in the desired position.

6.7.2 Fitting the cutting and grinding guards

NOTE

Read the instructions for fitting the corresponding guard.

NOTE

If you use the front cover, fit it by pushing it onto the guard.

6.7.2.1 Fitting the cutting guard 4 6

NOTE

Take care to ensure that the on / off switch is freely accessible and operable at all times.

6.8 Fitting the cutting / grinding disc 7

WARNING

If the nut securing the disc and flange is not tightened firmly, the disc may work loose from the spindle due to the braking effect of the motor. Tighten the disc / flange securing nut in accordance with the directions given in the operating instructions. Wait until the disc comes to a standstill.

DANGER

Check that the speed rating printed on the cutting or grinding disc is equal to or higher than the rated speed of the power tool (see accessories).

DANGER

Check the condition of the grinding disc before using it. Do not use accessories (e.g. discs) that are broken, cracked or damaged in any way.

1. Pull the battery out of the tool.
2. **CAUTION** The clamping flange is equipped with an O-ring. **The O-ring must be replaced if missing or damaged.**
Fit the clamping flange onto the drive spindle.
3. Fit the diamond disc, cutting disc or grinding disc.
4. Screw on the clamping nut and tighten it.
5. **CAUTION Do not press the spindle lockbutton before the drive spindle has stopped rotating.**
Press the spindle lockbutton and hold it in this position.
6. Use the wrench to tighten the clamping nut securely and then release the spindle lockbutton.

6.9 Using the Kwik-Lock clamping nut with grinding / cutting discs

6.9.1 Fitting grinding / cutting discs using the Kwik-Lock clamping nut 8

NOTE

The Kwik-Lock nut may be used instead of the standard clamping nut. No tools are then required for changing cutting discs.

NOTE

The Kwik-Lock nut cannot be used with cup wheels, brushes, rubber backing pads, tuck pointing discs (special discs used for joint repair) or with diamond cup wheels.

CAUTION

When operating the power tool, take care to ensure that the Kwik-Lock nut does not come into contact with the work surface. Do not use a damaged Kwik-Lock nut.

NOTE

The arrow on the upper surface of the nut must be within the index marks. If the arrow is not within the index marks when the nut is tightened it will be impossible to release the nut by hand. In this case, use the pin wrench to release the Kwik-Lock nut (do not use a pipe wrench!).

1. Pull the battery out of the power tool.
2. Clean the clamping flange and the quick-release clamping nut.
3. **CAUTION** The clamping flange is equipped with an O-ring. **The O-ring must be replaced if missing or damaged.**
Fit the clamping flange onto the drive spindle.
4. Fit the diamond disc, cutting disc or grinding disc.
5. Screw the quick-release clamping nut onto the spindle until it contacts the disc (the side with the lettering should be visible after the nut is screwed on).
6. **CAUTION Do not press the spindle lockbutton before the drive spindle has stopped rotating.**
Press the spindle lockbutton and hold it in this position.
7. Use the wrench to tighten the clamping nut or, respectively, rotate the grinding disc firmly by hand in a clockwise direction until the Kwik-Lock nut is tight, and then release the spindle lockbutton.

6.9.2 Removing grinding / cutting discs secured with the Kwik-Lock nut

1. Pull the battery out of the tool.
2. Release the Kwik-Lock nut by turning the knurled ring in a counterclockwise direction. (Use the pin wrench to release the Kwik-Lock nut if very tight. Do not use a pipe wrench.)

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7. Operation



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WARNING

Wear personal protective equipment. Exposure to noise can cause hearing loss.

WARNING

Test new cutting or grinding discs by allowing them to run at maximum speed in a protected area for at least 30 seconds.

WARNING

Slits cut in loadbearing walls of buildings or other structures may influence the statics of the structure, especially when steel reinforcing bars or load-bearing components are cut through. **Consult the structural engineer, architect, or person in charge of the building project before beginning the work.**

WARNING

Never use the tool without the side handle and the corresponding guard.

CAUTION

Use clamps or a vice to hold the workpiece securely.

CAUTION

Working on the material may cause it to splinter. **Wear eye protection and protective gloves. Wear breathing protection if no dust removal system is used.** Splintering material presents a risk of injury to the eyes and body.

CAUTION

Breathing protection must be worn if the power tool is used without a dust removal system for work that creates dust.

WARNING

Avoid touching rotating parts. Switch the power tool on only after bringing it into position at the workpiece. Touching rotating parts, especially rotating insert tools, may lead to injury.

CAUTION

The insert tool may get hot during use. **Wear protective gloves when changing insert tools.**

WARNING

Reduce the load on the power tool by avoiding tilting the disc in the kerf when cutting. The disc or wheel may otherwise break, or the power tool may kick back or stall.

CAUTION

Improve the blood circulation in your fingers by relaxing your hands and exercising your fingers during breaks between working.

WARNING

Keep inflammable materials away from the working area.

7.1 On / off switch with switch-on interlock

The on / off switch with safety lock (switch-on interlock) gives you full control of the switch function and avoids unintentional restarting.

1. Push the safety lock (switch-on interlock) forward to unlock the on / off switch and then press the switch fully.
2. The safety lock (switch-on interlock) returns automatically to the locked position when the on / off switch is released.

8. Care and maintenance

CAUTION

Before beginning cleaning, remove the battery from the power tool in order to prevent unintentional starting.

8.1 Care of the power tool

DANGER

Under extreme conditions, when used for working on metal, conductive dust may accumulate inside the

tool. **In this case, use of a stationary dust extraction system and frequent cleaning of the ventilation slots are recommended.**

The outer casing of the power tool is made from impact-resistant plastic. Sections of the grip are made from a synthetic rubber material.

Never operate the power tool when the ventilation slots are blocked. Clean the ventilation slots carefully using a dry brush. Do not permit foreign objects to enter the interior of the power tool. Clean the outside of the power tool at regular intervals with a slightly damp cloth. Do not use a spray, steam pressure cleaning equipment or running water for cleaning. This may negatively affect the electrical safety of the power tool. Always keep the grip surfaces of the power tool free from oil and grease. Do not use cleaning agents which contain silicone.

8.2 Maintenance

WARNING

Do not operate the tool if parts are damaged or when the controls do not function faultlessly. Have the power tool repaired by Hilti Service.

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WARNING

Repairs to the electrical section of the power tool may be carried out only by trained electrical specialists.

Check all external parts of the power tool for damage at regular intervals and check that all controls operate faultlessly.

8.3 Checking the power tool after care and maintenance

After carrying out care and maintenance work on the power tool, check that all protective and safety devices are fitted and that they function faultlessly.

9. Troubleshooting

Fault	Possible cause	Remedy
The battery runs down more quickly than usual.	Battery condition is not optimal.	Have battery condition diagnosed by Hilti Service or replace with a new battery.
The battery doesn't engage with an audible click.	The retaining lugs on the battery are dirty.	Clean the retaining lugs and check that the battery engages securely. Contact Hilti Service if the problem persists.
LED 1 blinks	The battery is discharged.	Charge the battery.
	The power tool has been overloaded (application limits exceeded).	Use the right power tool for the job (don't use a low-powered tool for heavy work).
The power tool doesn't run and 1 LED blinks.	The battery is discharged.	Change the battery and recharge the discharged battery.
	The battery is too hot or too cold.	Bring the battery to the recommended working temperature.
The power tool doesn't work and all 4 LEDs blink.	The power tool has been overloaded briefly.	Release the switch and press it again.
	The overheating prevention cut-out has been activated.	Allow the power tool to cool down.
The power tool or the battery becomes very warm.	Electrical fault.	Switch the power tool off immediately, remove the battery and contact Hilti Service.

Fault	Possible cause	Remedy
The power tool or the battery becomes very warm.	The power tool has been overloaded (application limits exceeded).	Use the right power tool for the job (don't use a low-powered tool for heavy work).
The power tool doesn't achieve full power.	A battery with inadequate capacity was used.	Use a battery with a capacity of at least 2.6 Ah.

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10. Disposal



Most of the materials from which Hilti power tools or appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back your old power tools or appliances for recycling. Please ask your Hilti customer service department or Hilti representative for further information.

11. Manufacturer's warranty - tools

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send the tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.



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